

Date: Tuesday, 8/1/2006 11:31:17 AM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : 02.250 SUPPORT
 Job Number : 28077
 Estimate Number : 11057
 P.O. Number : *N/A*
 This Issue : 8/1/2006 S.O. No. : *N/A*
 Prsht Rev. : NC
 First Issue : *N/A* Type : PURCHASED PARTS
 Previous Run : 26715
 Written By : *[Signature]*
 Checked & Approved By : *[Signature] 06-08-01*
 Comment : Est. C 02-11.26 Added P/O KJ

Part Number : D28911
 Drawing Number : D2891 REV A1
 Project Number : N/A
 Drawing Revision : A1
 Material : *N/A*
 Due Date : 8/31/2006 Qty: 8 UoM: Each

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 PG PURCHASING



Comment: PURCHASING

Issue P/O: *1813**C 06/08/10*

Description: D6104-003

Material: 17-4 PH SS (AMS 5643 OR AISI 630) as per Dwg D6104

Material release note required.

Blank size makes (2) D2891-1

(8)

2.0 D6104003 17-4 SS Roundbar 3.25"OD



Comment: Qty.: 1.0000 Each(s)/Unit Total: 8.0000 Each(s)
 Support 2.25 dia

3.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect for Transit Damage

Ensure Material Release Note is attached

R 4/1/08 (8)

4.0 MORI SEIKI MORI SEIKI CNC LATHE LARGE

*Issue PO 2008**C 06/09/10 (8)*

Comment: MORI SEIKI LATHE

Turn blank for Haas as per Folio FA046

turn per D5K076

5.0 QC1 INSPECT ALL DIM TO DIM SHEET

*Rec'd & Inspect*

Comment: INSPECT ALL DIM TO DIM SHEET

*for transit damage R 4/1/08 (8)**5h**Inspect Lathe 1/5**En 06/10/13 x 8*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☐ No ☒ DQA: ☒ Date: 06/10/17

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

Date: Tuesday, 8/1/2006 11:31:17 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 02.250 SUPPORT

Job Number: 28077

Part Number: D28911

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

BAND SAW

BAND SAW



Comment: BAND SAW

Machine as per Folio FA046

Tumble & Deburr

Er / 06/10/14

7.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

Er / 06/10/14

8.0

QC8

SECOND CHECK



Comment: SECOND CHECK

SL 06/10/14

9.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.2) as per QSI 005 4.3

FL 06 10 16 (8)

10.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

06/10/17 (8)

11.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 57166

06/14/17 (8)

12.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06/10/17

Job Completion



U 06-10-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

DART AEROSPACE LTD	Work Order: 28077
Description: Ø2.250 Support	Part Number: D2891-1
Inspection Dwg: D2891 Rev. A1	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2891 Rev.A1/DSK076 Rev.A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
Lathe Section									
A	2.274	2.279		2.278	2.279	2.279	2.279		
B	3.702	3.722		3.712	3.712	3.712	3.711		
C	2.564	2.584		2.574	2.574	2.573	2.572		
D	0.718	0.738		0.722	0.722	0.726	0.726		
E	0.090	0.110		0.092	0.092	0.094	0.095		
F	2.464	2.484		2.473	2.473	2.473	2.473		
G	2.029	2.049		2.038	2.038	2.038	2.038		
H	2.964	2.984		2.976	2.974	2.974	2.974		
I	0.913	0.933		0.920	0.921	0.921	0.924		
J	0.022	0.042		0.032	0.032	0.032	0.032		
K	0.090	0.110		0.098	0.099	0.098	0.098		
L									
HAAS Section									
AA	0.188	0.193	DT8706	0.190	0.189	0.189	0.185		
AB	0.240	0.260		0.244	0.249	0.249	0.248		
AC	0.115	0.150		0.134	0.134	0.133	0.122		
AD	0.040	0.060		0.047	0.050	0.046	0.049		
AE	0.010	0.020		0.015	0.015	0.015	0.015		
AF	0.240	0.260		0.250	0.250	0.250	0.250		
AG	0.290	0.310		0.302	0.306	0.301	0.305		
AH	0.115	0.150		0.135	0.120	0.127	0.134		
AI	0.454	0.474		0.461	0.460	0.461	0.458		
AJ	2.779	2.789		2.781	2.780	2.780	2.780		
AK	0.240	0.260		0.250	0.250	0.250	0.250		
AL	1.002	1.042		1.042	1.040	1.040	1.041		
AM	0.053	0.073		0.063	0.063	0.063	0.063		
AN	0.257	0.262	DT8683	0.257	0.258	0.260	0.260		
AO	1.663	1.683		1.674	1.679	1.680	1.678		
AP	0.053	0.073		0.063	0.063	0.063	0.063		
AQ	0.022	0.042		0.032	0.032	0.032	0.032		
AR									
AS									
Accept/Reject									

Measured by: EP
Date: 06/10/14

Audited by: J.L
Date: 06/10/14

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	

DART AEROSPACE LTD	Work Order: 28077
Description: Ø2.250 Support	Part Number: D2891-1
Inspection Dwg: D2891 Rev. A1	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2891 Rev.A1/DSK076 Rev.A and record below:

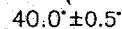
Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				5	6	7	8		
Lathe Section									
A	2.274	2.279		2.276	2.277	2.279	2.279		
B	3.702	3.722		3.712	3.711	3.712	3.711		
C	2.564	2.584		2.574	2.572	2.573	2.574		
D	0.718	0.738		0.730	0.726	0.730	0.726		
E	0.090	0.110		0.093	0.096	0.095	0.094		
F	2.464	2.484		2.474	2.474	2.474	2.474		
G	2.029	2.049		2.038	2.039	2.038	2.038		
H	2.964	2.984		2.973	2.973	2.973	2.975		
I	0.913	0.933		0.924	0.926	0.925	0.917		
J	0.022	0.042		0.032	0.032	0.032	0.032		
K	0.090	0.110		0.099	0.097	0.098	0.098		
L									
HAAS Section									
AA	0.188	0.193	DT8706	0.188	0.188	0.188	0.188		
AB	0.240	0.260		0.244	0.250	0.248	0.247		
AC	0.115	0.150		0.123	0.122	0.122	0.120		
AD	0.040	0.060		0.044	0.049	0.051	0.052		
AE	0.010	0.020		0.015	0.015	0.015	0.015		
AF	0.240	0.260		0.250	0.250	0.250	0.250		
AG	0.290	0.310		0.294	0.308	0.300	0.299		
AH	0.115	0.150		0.136	0.139	0.136	0.138		
AI	0.454	0.474		0.462	0.459	0.461	0.461		
AJ	2.779	2.789		2.781	2.779	2.781	2.780		
AK	0.240	0.260		0.250	0.250	0.250	0.250		
AL	1.002	1.042		1.040	1.040	1.040	1.041		
AM	0.053	0.073		0.063	0.063	0.063	0.063		
AN	0.257	0.262	DT8683	0.260	0.260	0.260	0.260		
AO	1.663	1.683		1.677	1.675	1.683	1.680		
AP	0.053	0.073		0.063	0.063	0.063	0.063		
AQ	0.022	0.042		0.032	0.032	0.032	0.032		
AR									
AS									
Accept/Reject									

Measured by: En /
Date: 6/10/14


Audited by: J.L
Date: 6/10/14

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	

- 1) MATERIAL: 17-4 PH STAINLESS STEEL
HEAT TREAT TO H900 CONDITION
(900°F FOR 1 HR, AIR COOL)
MIN UTS = 170 KSI (38 HRC)
- 2) IDENTIFY WITH DART LOGO (PER DART SUPPLIED GRAPHIC) AND PART NUMBER IN THIS AREA WITH 0.125 HIGH LETTERING 0.010-0.020 DEEP.
- 3) BREAK ALL UNMARKED SHARP EDGES 0.010 TO 0.020
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) TOLERANCES ARE PER DART QSI 018 (REF. X.XXX = ± 0.010) UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES
- 7) FINISH: POWDER COAT WHITE (REF. 4.3.5.2) PER DART QSI 005 4.3



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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 28077

A1		CP 02.01.13	UPDATE DIMS AS MANUFACTURED	
A		00.11.17	NEW ISSUE	
DESIGN		CP	DRAWN BY	CP
			 DART AEROSPACE LTD. HARBESBURG, ONTARIO, CANADA	
CHECKED		CP	APPROVED	CP
			DRAWING NO.	REV: A
			D2891	SHEET 1 OF 1
DATE		00.11.17	TITLE	SCALE
			Ø2.250 SUPPORT	1:1

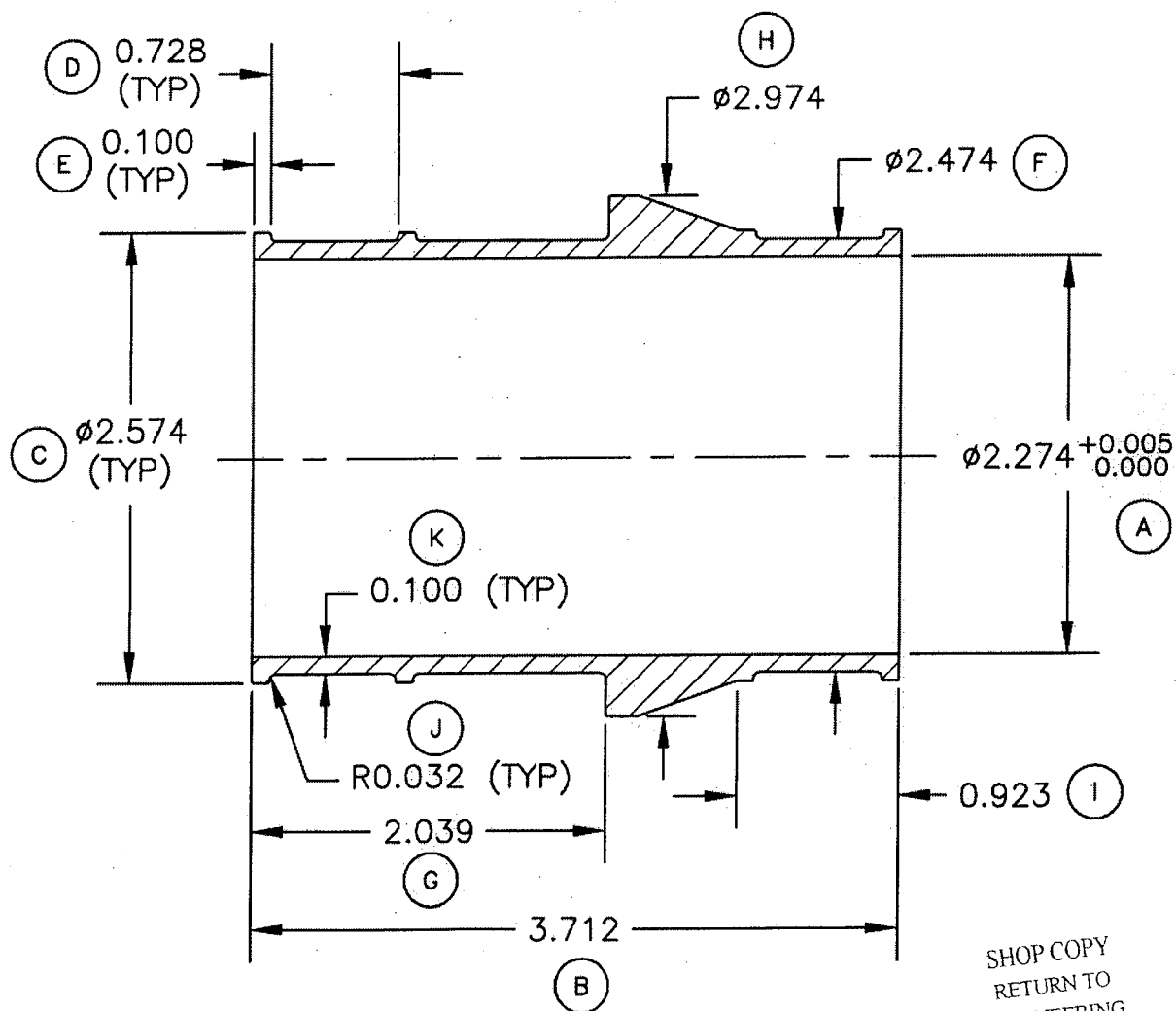
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DART

DESIGN RT	DRAWN BY RT	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED A	APPROVED A	DRAWING NO. DSK 076	REV. A SHEET 1 OF 1
DATE 03.05.20		TITLE TURNING DETAIL FOR D2891-1	SCALE 1:1
A	03.05.20	NEW ISSUE	

RELEASED
03-07-01 A



D2891-1 TURNING DETAIL

SHOP COPY
RETURN TO
ENGINEERING
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 28077

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CUSTOMER 96294	SHIP DATE 08/17/06 SHP	GROSS WEIGHT 175	QUOTE 30-169814-1	OF 1 TEST RESULTS	
BILL TO: DART AEROSPACE		WORK ORDER **	ORDER DATE 08/10/06 ORD		
SHIP TO DART AEROSPACE 1270 ABERDEEN ST HAWKESBURY ON CANADA K6A 1K7		DELIVERY DATE 08/17/06 DEL	SHIP BRANCH 30(04)	SELL BRANCH 30-TOR	WORK ORDER U11031
CUSTOMER P.O. NUMBER PO00001813		TERRITORY 01	ENTRY ID 30MAC	6905 KENDERRY GATE, MISSISSAUGA ONTARIO, CANADA L5T 2Y	
BUYER CHANTAL LAVOIE		INSIDE SALES MARIO A. CARREIRO	Copper and Brass Sales Canada A ThyssenKrupp Materials NA company ThyssenKrupp		
BUYER TELEPHONE (613) 632-9577		INSIDE SALES TELEPHONE (905) 532-1440 21423	QUANTITY INVENTORY	ORDERED 143.48 LB	SHIPPED 147.00
SHIP VIA		SHIPPING STATUS	BILLING	16.00 PC	16.00
INTERNAL		COMPLETE X	PARTIAL	CANCEL	WAREHOUSE
TO CUSTOMER COMMON/FRT-CCX		FOB DEST	PACKED WITH OTHER GOODS		
BILL OF LADING		FREIGHT STATUS PPD	FINISHED GOODS LOCATION WARN LABEL:1017		

PART DESCRIPTION 408853-0

RD T-17-4 HFRT COND A SS BAR (6" & BELOW), 3-1/4 (+.0468 -0) X 12 FT ML
-DART AEROSPACE, CUT 3.8" (+.125, -0)

Mark Cust PART No: D6104-003 on Pkg. , Test Results Attn to: QA Department.

Rec'd 18

Cust Part: D6104-003

SPECIAL INSTRUCTIONS

"Shipping, do not place any packages or goods on top of our material."

FULL	SCRAP	FILLED BY LMT	PACKED BY	Q/A AUDIT
CUSTOMER RECEIVING HOURS 8-3	MAX SKID WEIGHT 100	LOADING INSTRUCTIONS HAND, CRANE, FORK, DOCK	MAXIMUM BUNDLE WEIGHT 200	
BOXES	BARS	CASES	CUSHP	PKGS
				SKIDS 1
				BDLS
				TUBES
				CTNS
				FLAT
				COILS
INSPECTION RECORD				

TEST RESULTS -----

CERTIFICATE OF COMPLIANCE

We hereby certify that mercury or any of its compounds are not used in the processing and distribution of our products. The products we distribute are not hazardous in their received state. For MSDS sheets go to www.copperandbrass.com/msds or call 248-233-5682. We hereby certify that the material above complies with the following specifications:

ASTM-A564

AMS 5643

AISI 630

ROHS COMPLIANT

TAG NO	QUANTITY UOM VENDOR VENDOR PO HEAT/LOT	PCS	TAG NO	QUANTITY UOM VENDOR VENDOR PO HEAT/LOT	PCS
	147.00 LB VALBURN OCE5900 239178 MAXX	!			

MARY L. TAYLOR General Manager: TORONTO
COPPER AND BRASS SALES CANADA IS A DIVISION OF THYSSENKRUPP MATERIALS, CA. LTD./LIEB

PRINTED 08/16/06 12:18 PM

CONTROL NO 00056

COPPER AND BRASS SALES

MATERIAL TYPE STAINLESS STEEL

AISI SERIES
200 300 400
AND
PRECIPIT HARDENING GRADES

"WARNING"

INHALATION OF FUMES, FRESHLY GENERATED BY THE WELDING OF STAINLESS STEEL CONTAINING ONE OR MORE OF THE FOLLOWING INGREDIENTS, ZINC, MAGNESIUM OR COPPER, ARE KNOWN TO CAUSE METAL FUME FEVER. INHALATION OF DUST OR FUME FROM STAINLESS STEEL CONTAINING ONE OR MORE OF THE FOLLOWING INGREDIENTS, ALUMINUM, IRON, MANGANESE, SELENIUM, OR TIN, HAS ALSO BEEN REPORTED TO CAUSE METAL FUME FEVER AND MAY CAUSE IRRITATION TO THE RESPIRATORY TRACT AND/OR AGGRAVATE PRE-EXISTING CONDITIONS. TARGET ORGAN IS PRIMARILY THE LUNG.

THIS PRODUCT CONTAINS CHROMIUM. EXPOSURE TO CHROMIUM DUST OR FUME MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS AND KIDNEY AND LIVER DAMAGE. UNDER HIGH TEMPERATURES, HEXAVALENT CHROMIUM MAY BE PRODUCED. IF IN THE INSOLUBLE FORM, IT IS A CONFIRMED HUMAN CARCINOGEN. THIS PRODUCT MAY ALSO CONTAIN NICKEL AND COBALT. INHALATION OF NICKEL OR COBALT DUST OR FUME MAY RESULT IN INFLAMMATION OF THE RESPIRATORY TRACT. NICKEL AND COBALT HAVE BEEN IDENTIFIED AS POTENTIAL HUMAN CARCINOGENS.

IF COATED WITH OIL, MAY CAUSE SKIN IRRITATION/DERMATITIS BY CONTACT. WELDING FUME IS LISTED AS A POSSIBLE CARCINOGENIC TO HUMANS.

READ THE STAINLESS STEEL MATERIAL SAFETY DATA SHEET (MSDS) ON FILE WITH YOUR EMPLOYER BEFORE WORKING WITH THIS MATERIAL

- * If processing or recycling produces particulate, use exhaust ventilation or other controls designed to prevent exposure to workers. Examples of such activities include melting, welding, grinding, abrasive sawing, sanding and polishing. Any activity which abrades the surface of this material can generate airborne particulate. Use respiratory protection (P100, quantitative fit testing required) if exposures exceed the permissible limits.
- * The Occupational Safety and Health Administration (OSHA) have set mandatory limits on occupational exposures.
- * Stainless Steel, in solid form and as contained in finished products presents no special health risk.
- * Sold for manufacturing purposes only. This product can be recycled; contact your sales representative.

The Occupational Safety and Health Administration require employers to provide training in the proper use of this product.

For additional information, call or write to Copper and Brass Sales, 22355 West Eleven Mile Road, Southfield, MI 48033, telephone 248-233-5600, or visit our web site @ www.copperandbrass.com.



VALBRUNA
SLATER STAINLESS, INC.
2400 Taylor Street West, P.O. Box 630
Fort Wayne, Indiana USA 46801
Phone: 260-434-2892 Fax: 260-434-2905

Product Certification Report

Report Number: **4078840**

Certified on May 31, 2005 Page 1 of 1

Order I.D. 0500940 001		Order Date 4/29/05		Commodity Code 408853-0	
Dim 1 3.2500	Dim 2 .0000	Dim 3 .0000	Heat I.D. 239178	Customer I.D. 001155	Customer Purchase Order CE5900
Product Shape Rounds			Product Surface HR & Rough Turned		Customer Grade 630
Length (Inches) 132.000 Min. 156.000 Max.			Bill of Lading # 401376	Weight	

Ship To

COPPER ND BRASS SALES
415 STATE PARKWAY
SCHAUMBURG, IL 60173

Sold To

VALBRUNA CORP.
31 IRON HORSE ROAD
OAKLAND, NJ 07436

Lifts: 0096

AISI 630

CONDITION A

ASTMA 564-02

ASMESA 564 01 ED 2002 ADD

AMS 2303E

AMS 5643Q

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Cr	Ni	Mo	Cu	N	Cb	Ta	Cb+Ta
.039	.57	.026	.017	.54	15.60	4.60	.18	3.35	.04	.29	.001	.29

HB

353

TENSILE PROPERTIES

CAPABILITY

HB	TS (PSI)	.2%YS (PSI)	%EL(2")	%RA	AGE(F)
433	206000	178300	14.1	50.9	900

MAGNETIC PARTICLE TEST

FREQ SEV
AVG .00 .00

MACRO ASTM E340/E381

MACRO

OK

OK

PERCENT FERRITE

% FERRITE

AVG 1.0

Free of mercury and low melting alloy contamination.

Maxx stainless.

Chemical testing performed to one or several of the following ASTM methods: E415, E572, E1019, E1085, E1086.

Material melted in Italy, manufactured in the United States.

Material conforms to listed specifications.

Quality system is compliant with ISO 9001:2000. Produced in accordance with EN 10204 3.1B.

COPPER AND BRASS SALES

SOLD TO: Copper & Brass Sales

DATE: 8/15/06 QTY. 147.00

CUSTOMER PO: P00000181

SHIPPER NO: 424691

BY: E. R.

Results relate only to the items tested. Certification shall not be reproduced except in full, without written approval of Valbruna Stainless Inc. The recording of false, fictitious, or fraudulent statements on this document may be punished as a felony under federal statutes, including Federal law, Title 18, Chapter 47. Consult material safety data sheet (MSDS) for hazard info. I hereby certify that the reported figures are correct as contained in the records of the corporation.

Manager Laboratory Services

Dennis Hackett
Dennis Hackett



CERTIFICATE OF CONFORMITY

SOLD TO:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, Ont.
K6A 1K7

SHIPPED TO:

same

<u>QUANTITY</u>	<u>PART NUMBER</u>	<u>PART NAME</u>	<u>P.O. NUMBER</u>
10	DSK076	Support as per Dwg DSK076 D6104-003 B28388	2068
8	DSK076	Support as per Dwg DSK076 D6104-003 B28077	2068
10	DSK076	Support as per Dwg DSK076 D6104-003 B26715	2068
20	DSK077	Support as per Dwg DSK077 D6104-003 B28389	2068
8	DSK077	Support as per Dwg DSK077 D6104-003 B27970	2068
7	DSK077	Support as per Dwg DSK077 D6104-003 B28078	2068
14	DSK080	Support as per Dwg DSK080 D6104-011 B27266	2068

MATERIAL: supplied by DART

We hereby certify that the above parts were made in conformance with applicable drawings.

METEC Metal Technology Inc.


Shigi (Regula) Walz

Vankleek Hill, September 20, 2006

